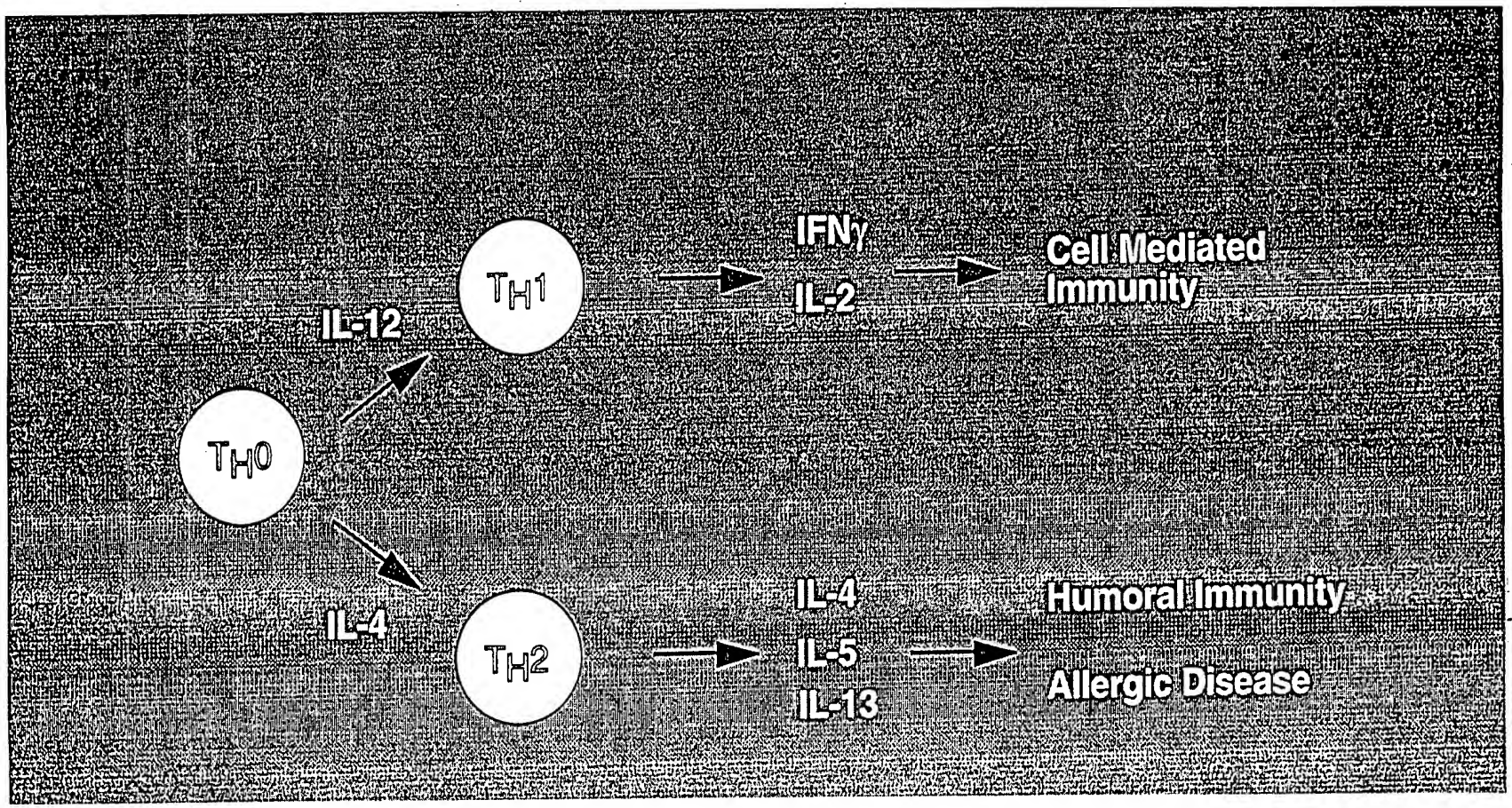

IFNγ
IL-2
Cell Mediated Immunity
TH1
IL-12
TH0
IL-4
IL-4
IL-5
IL-13
Humoral Immunity
Allergic Disease
TH2

FIGURE 1

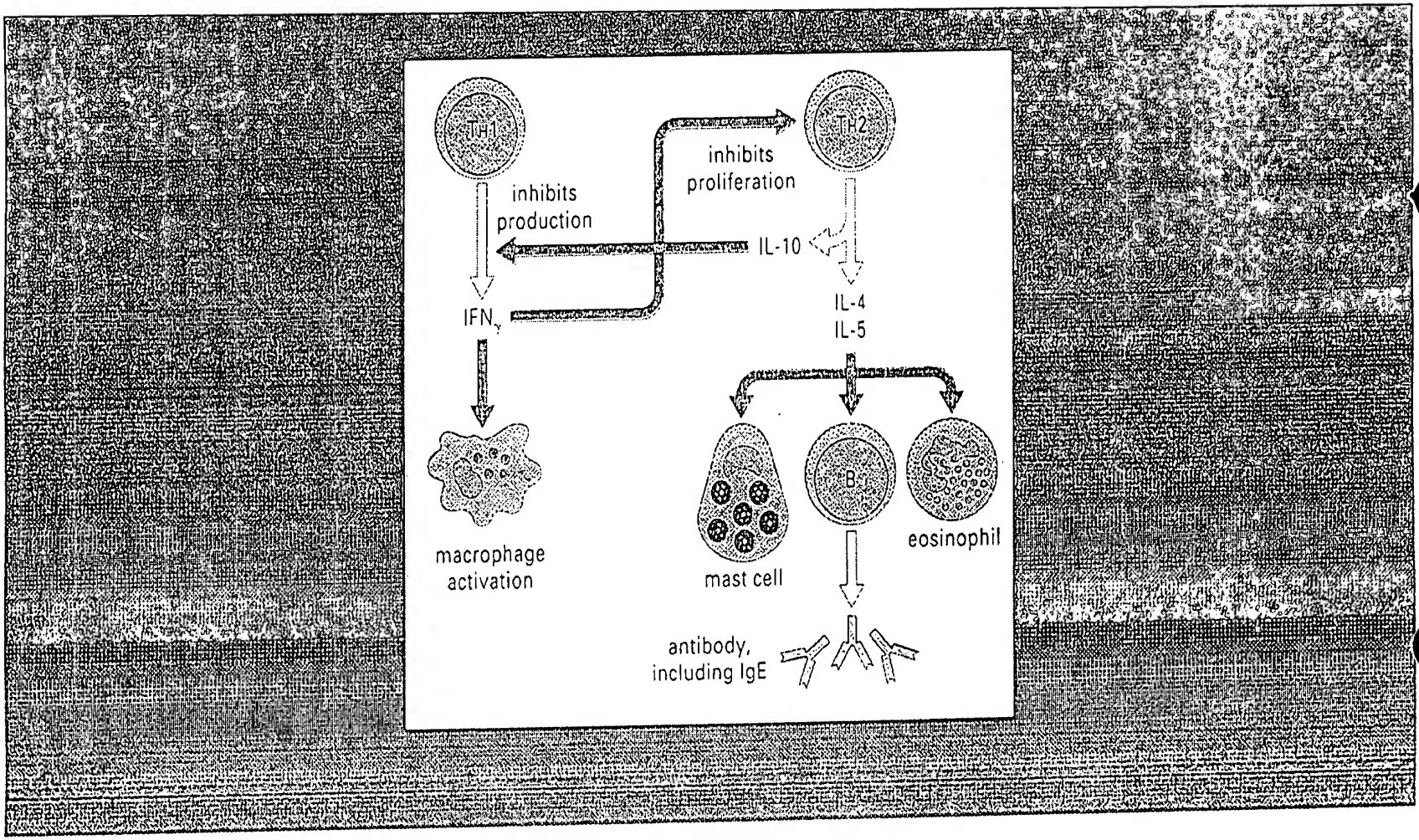

TH1
TH2
inhibits
production
inhibits
proliferation
IL-10
IFN$_\gamma$
IL-4
IL-5
B
macrophage
activation
mast cell
eosinophil
antibody,
including IgE

FIGURE 2

MRGGRGAPFWLWPLPKLALLPLLWVLFQRTRPQGSAGPLQCYGVGPLGDLNCSWEPLGD
LGAPSELHLQSQKYRSNKTQTVAVAAGRSWVAIPREQLTMSDKLLVWGTKAGQPLWPPV
FVNLETQMKPNAPRLGPDVDFSEDDPLEATVHWAPPTWPSHKVLICQFHYRRCQEAAWT
LLEPELKTIPLTPVEIQDLELATGYKVYGRCRMEKEEDLWGEWSPILSFQTPPSAPKDV
WVSGNLCGTPGGEEPLLLWKAPGPCVQVSYKVWFWVGGRELSPEGITCCCSLIPSGAEW
ARVSAVNATSWEPLTNLSLVCLDSASAPRSVAVSSIAGSTELLVTWQPGPGEPLEHVVD
WARDGDPLEKLNWVRLPPGNLSALLPGNFTVGVPYRITVTAVSASGLASASSVWGFREE
LAPLVGPTLWRLQDAPPGTPAIAWGEVPRHQLRGHLTHYTLCAQSGTSPSVCMNVSGNT
QSVTLPDLPWGPCELWVTASTIAGQGPPGPILRLHLPDNTLRWKVLPGILFLWGLFLLG
CGLSLATSGRCYHLRHKVLPRWVWEKVPDPANSSSGQPHMEQVPEAQPLGDLPILEVEE
MEPPPVMESSQPAQATAPLDSGYEKHFLPTPEELGLLGPPRPQVLA

FIGURE 3

MNRLRVARLTPLELLLSLMSLLLGTRPHGSPGPLQCYSVGPLGILNCSWEPLGDLETPPV
LYHQSQKYHPNRVWEVKVPSKQSWVTIPREQFTMADKLLIWGTQKGRPLWSSVSVNLETQ
MKPDTPQIFSQVDISEEATLEATVQWAPPVWPPQKALTCQFRYKECQAEAWTRLEPQLKT
DGLTPVEMQNLEPGTCYQVSGRCQVENGYPWGEWSSPLSFQTPFLDPEDVWVSGTVCETS
GKRAALLVWKDPRPCVQVTYTVWFGAGDITTTQEEVPCCKSPVPAWMEWAVVSPGNSTSW
VPPTNLSLVCLAPESAPCDVGVSSADGSPGIKVTWKQGTRKPLEYVVDWAQDGDSLDKLN
WTRLPPGNLSTLLPGEFKGGVPYRITVTAVYSGGLAAAPSVWGFREELVPLAGPAVWRLP
DDPPGTPVVAWGEVPRHQLRGQATHYTFCIQSRGLSTVCRNVSSQTQTATLPNLHSGSFK
LWVTVSTVAGQGPPGPDLSLHLPDNRIRWKALPWFLSLWGLLLMGCGLSLASTRCLQARC
LHWRHKLLPQWIWERVPDPANSNSGQPYIKEVSLPQPPKDGPILEVEEVELQPVVESPKA
SAPIYSGYEKHFLPTPEELGLLV

FIGURE 4

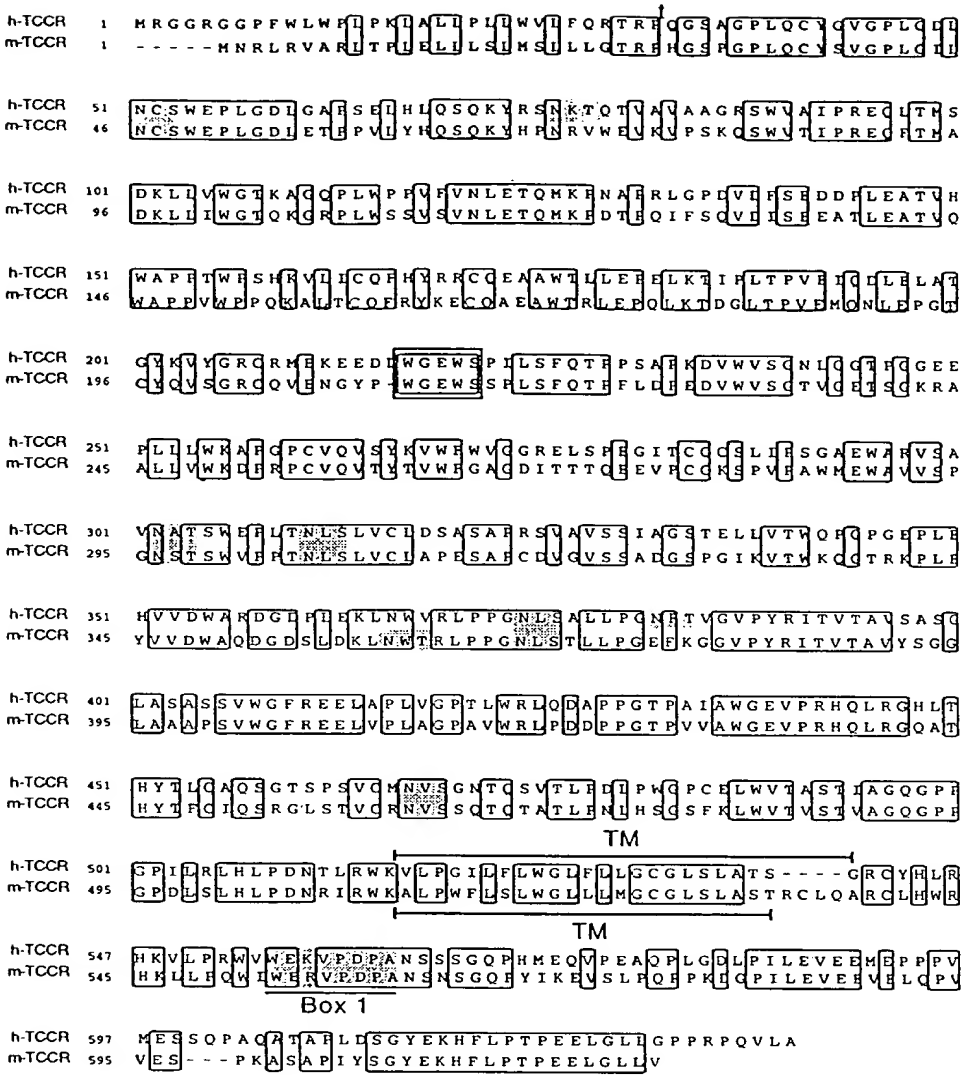


FIGURE 5

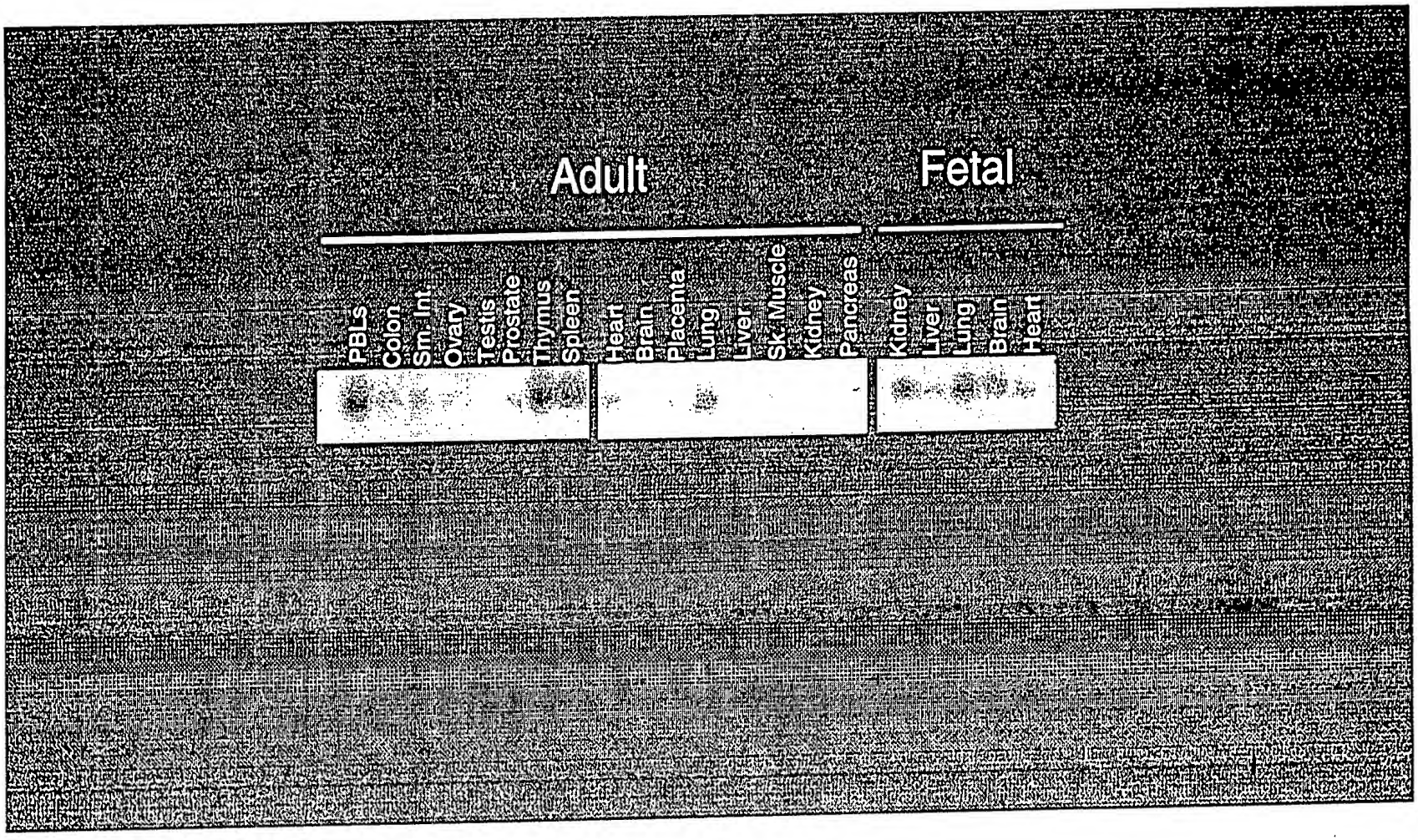


FIGURE 6

FIGURE 7A

FIGURE 7B

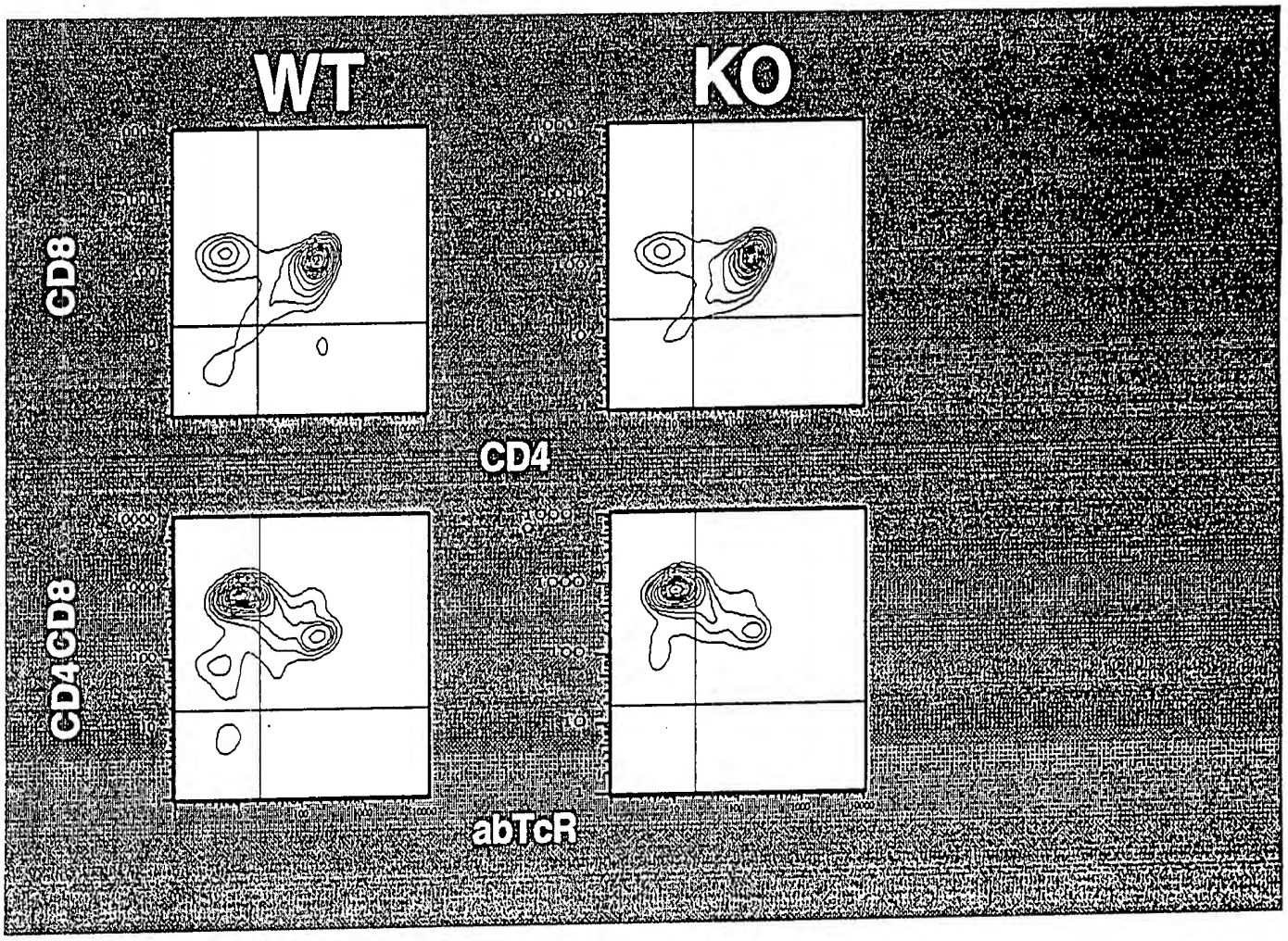
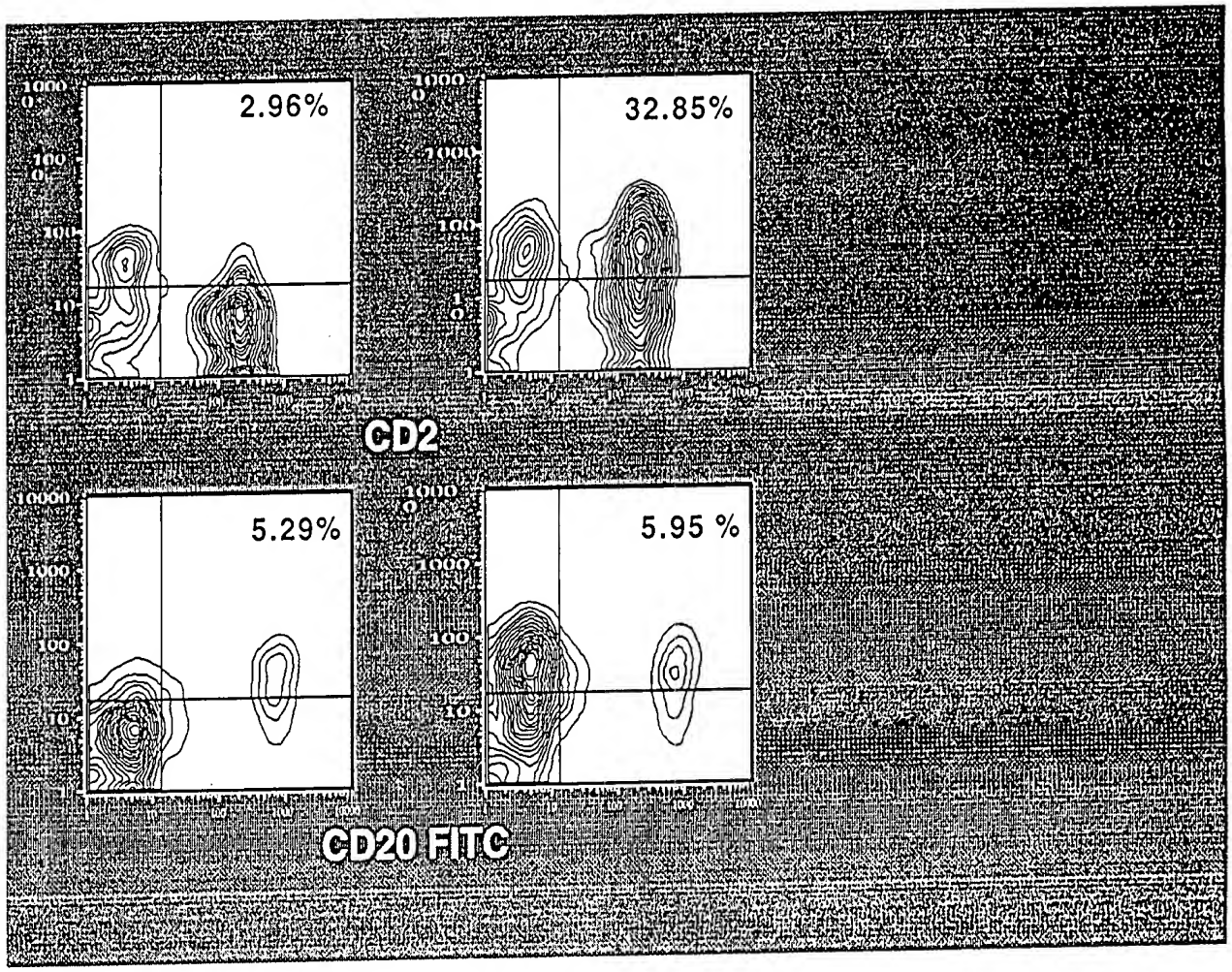
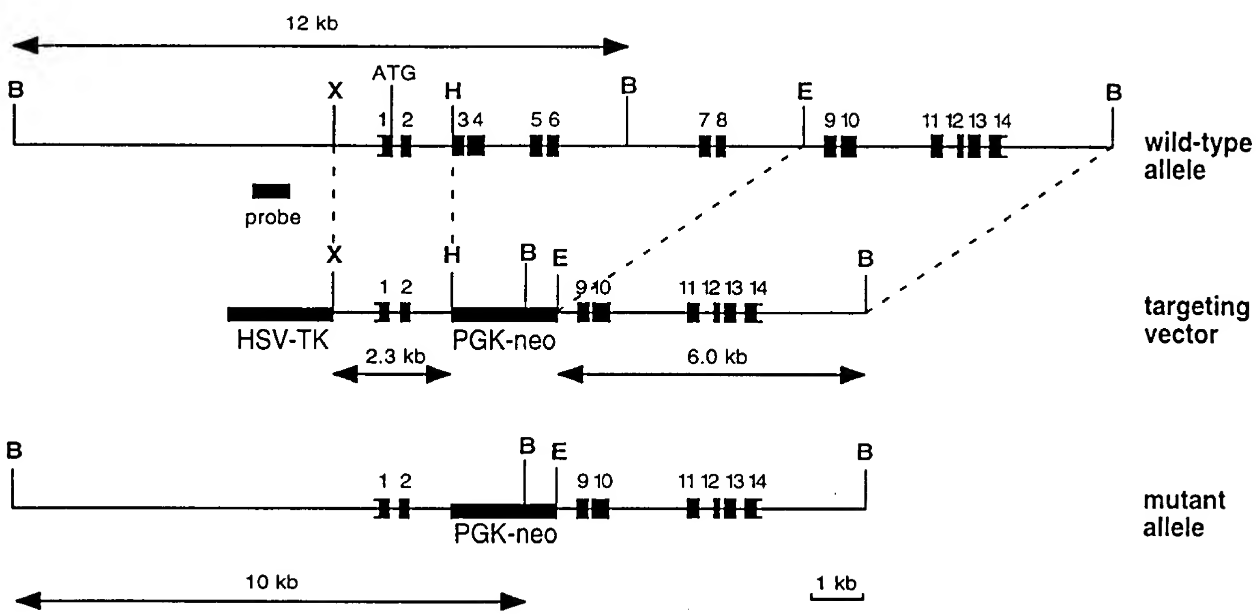


FIGURE 8A

FIGURE 8B

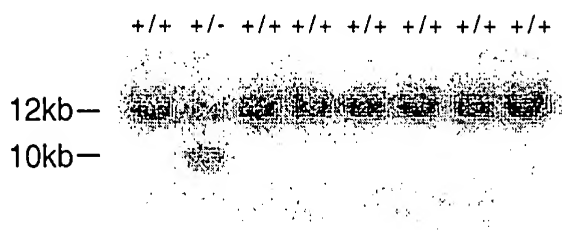


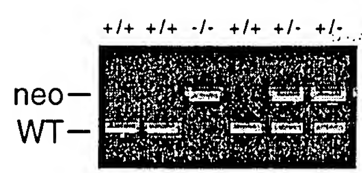


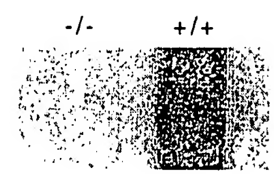
9A

9B

9C







10A

10B

10C

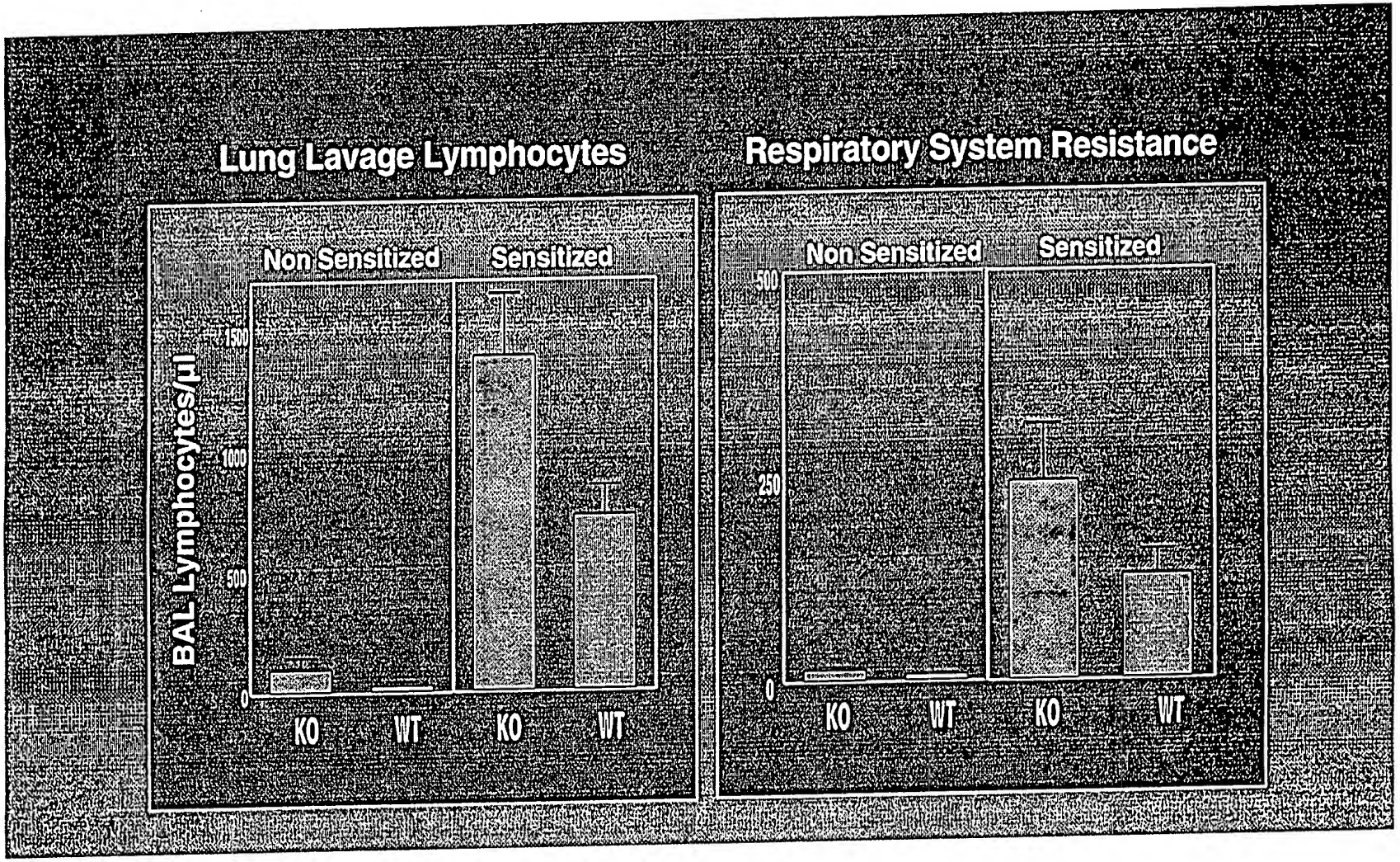


FIGURE 11A

FIGURE 11B

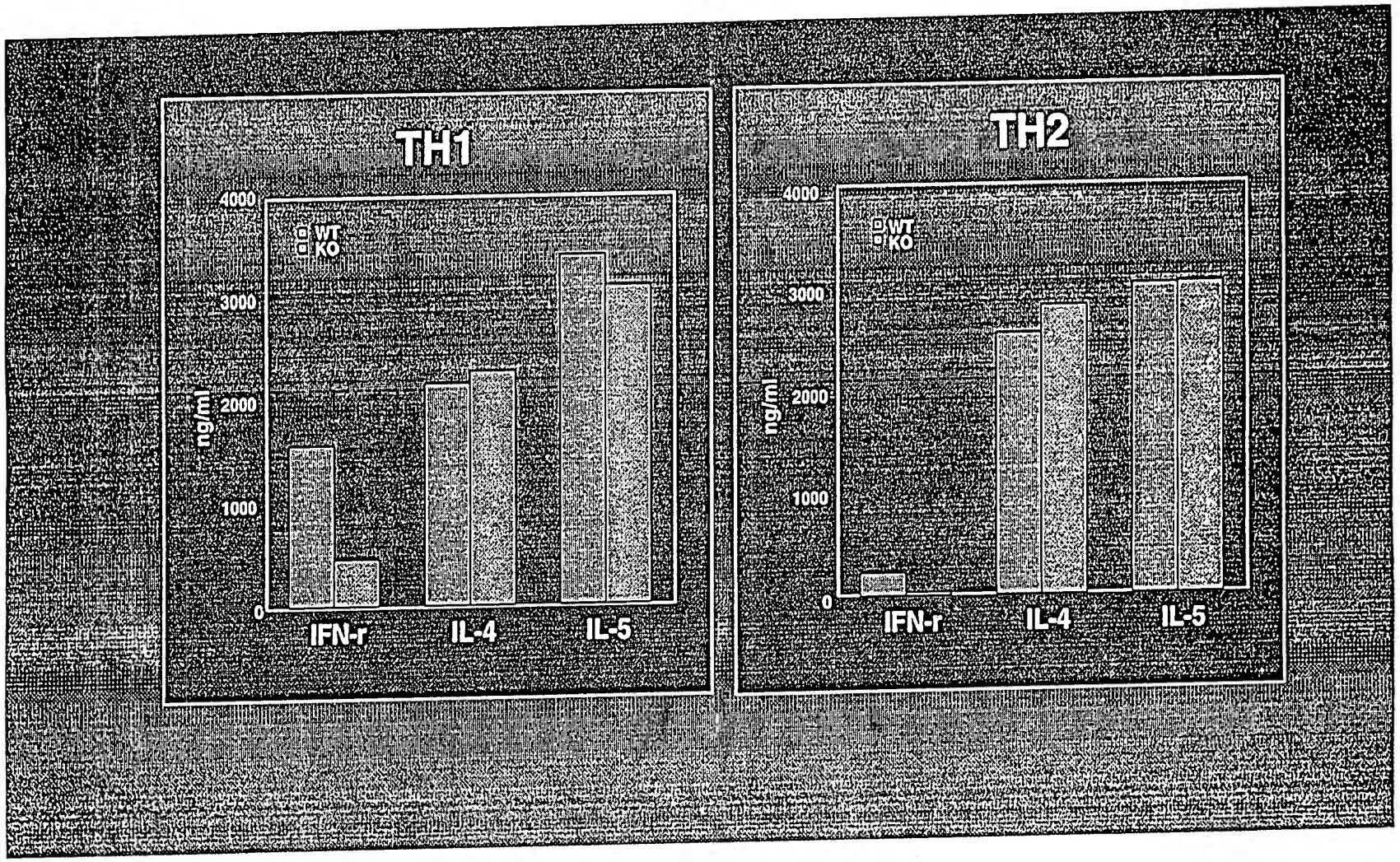


FIGURE 12A

FIGURE 12B

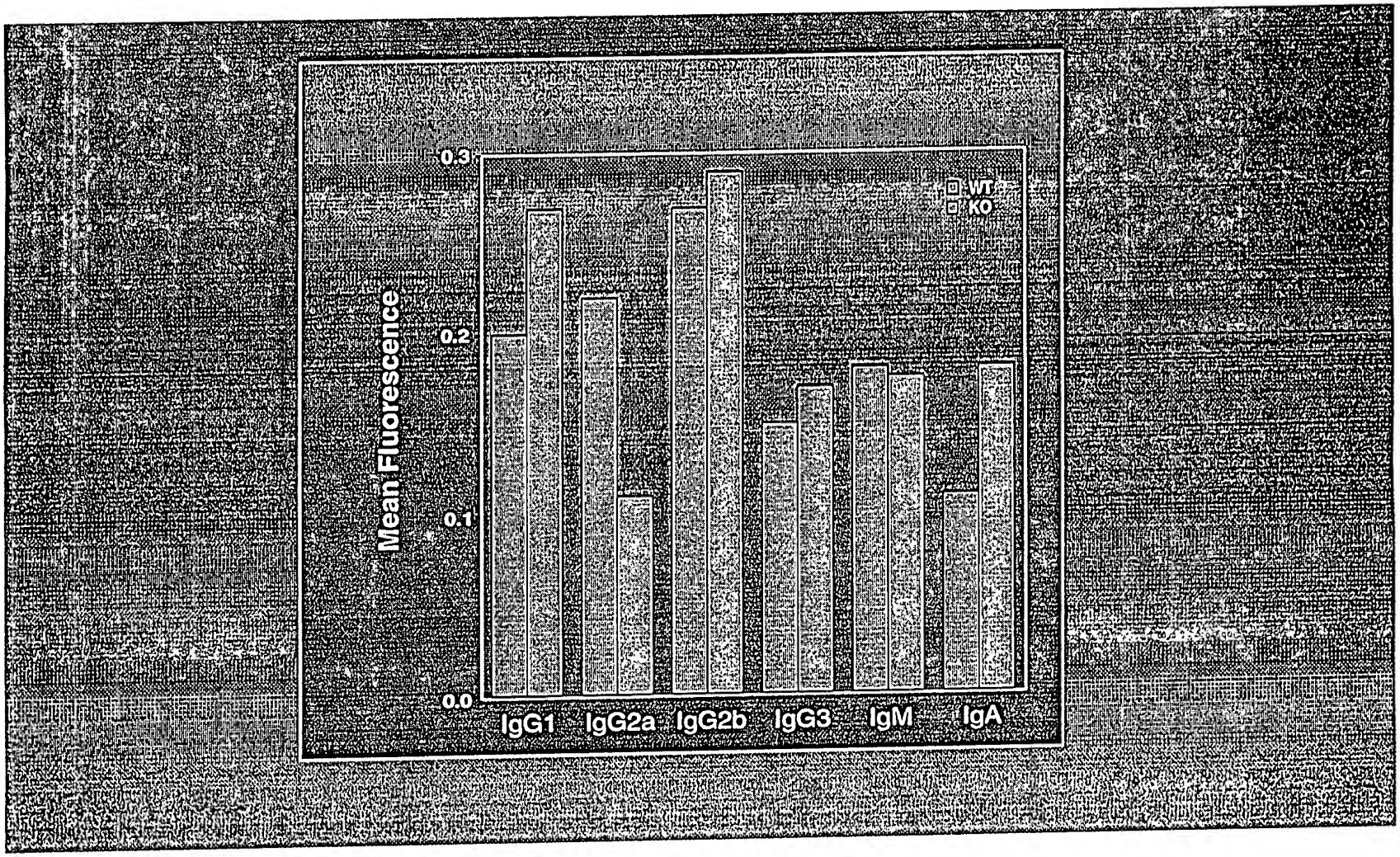


FIGURE 13

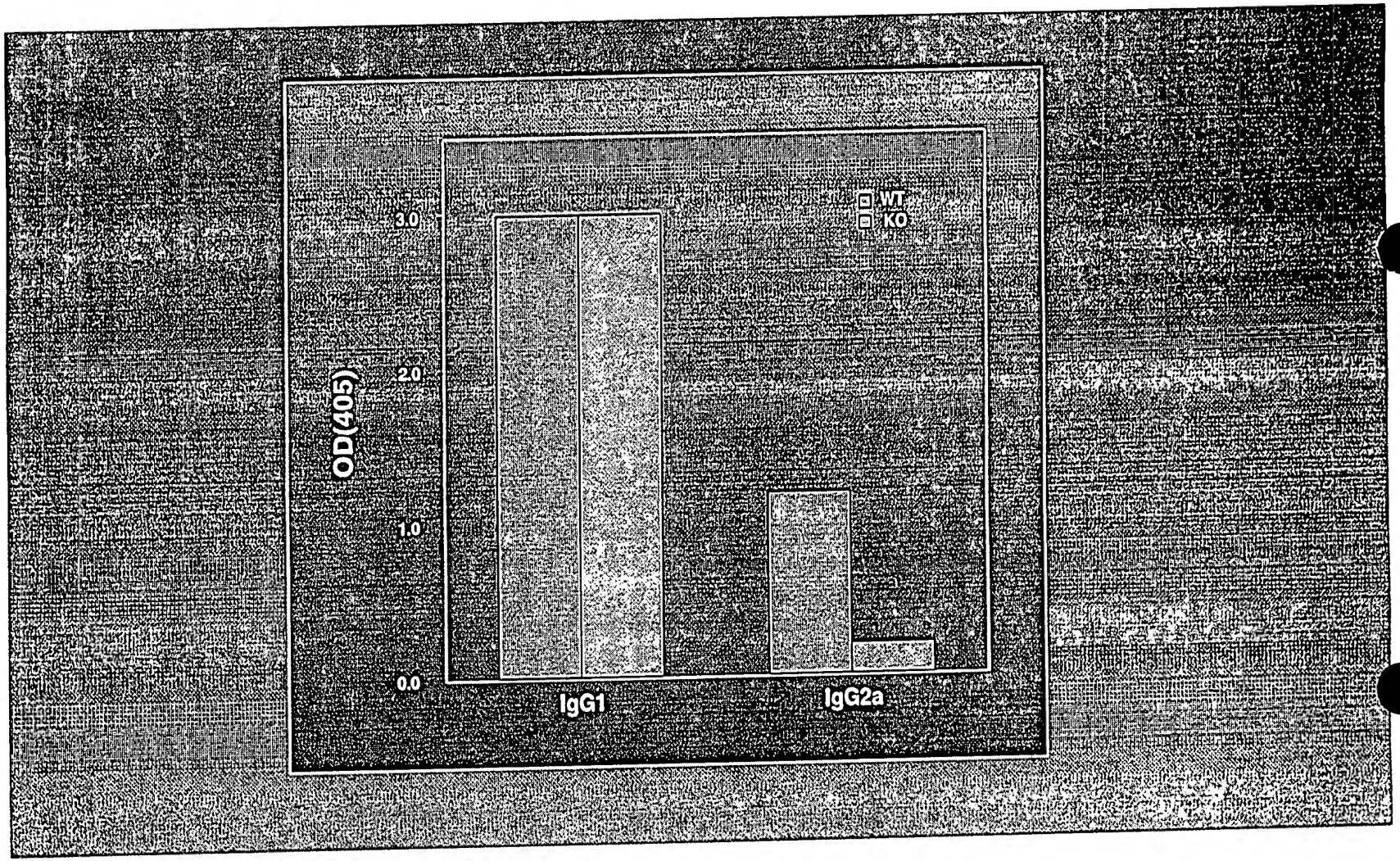


FIGURE 14

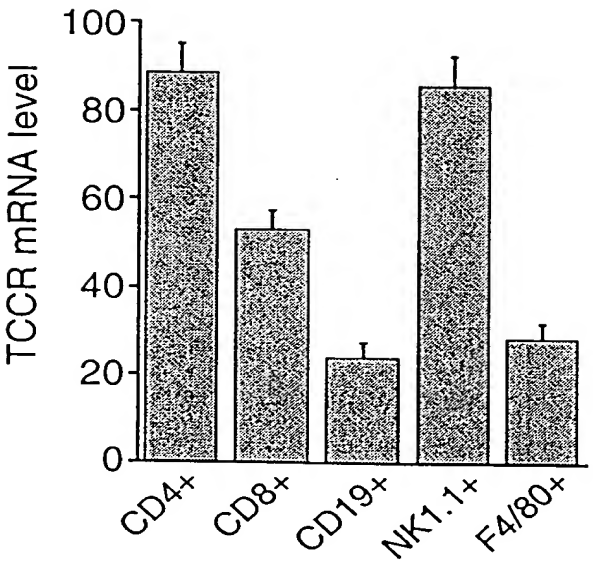


FIGURE 15A

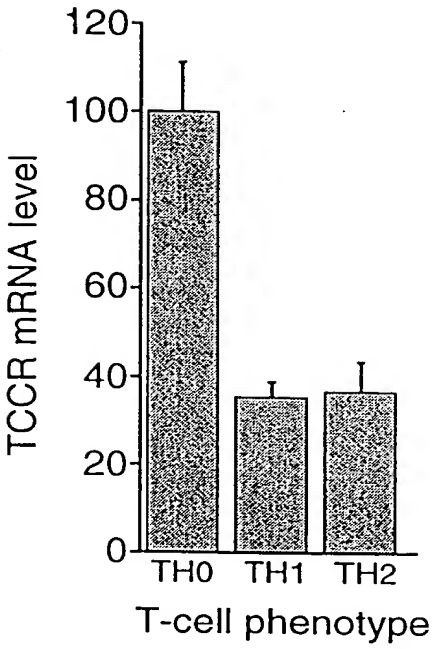


FIGURE 15B

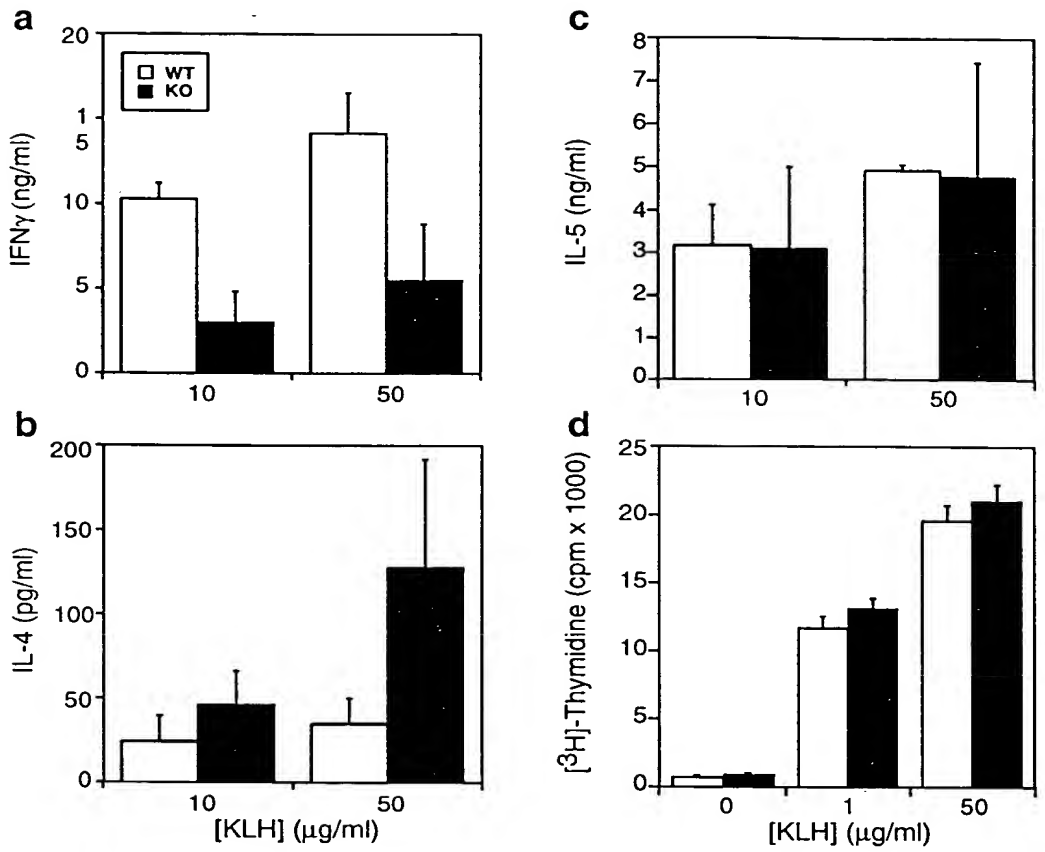
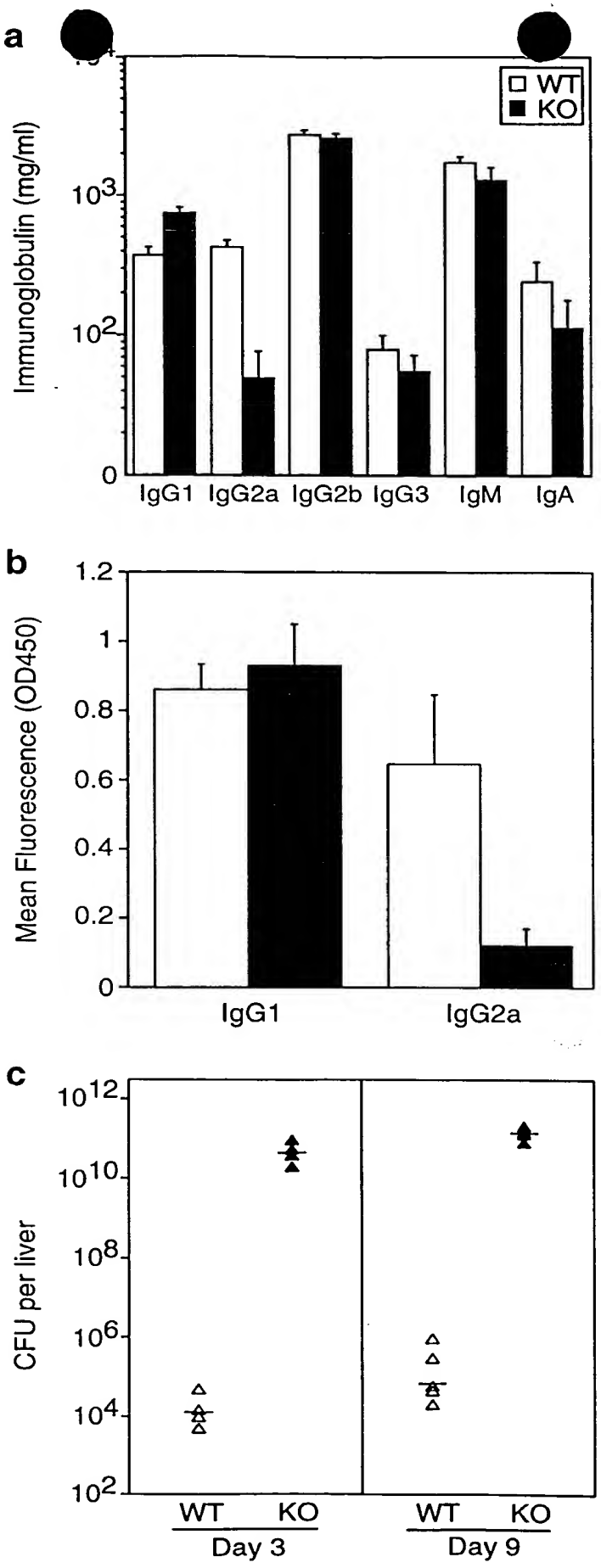

a
IFNγ (ng/ml)
WT
KO
20
1
5
10
5
0
10
50
b
IL-4 (pg/ml)
200
150
100
50
0
10
50
[KLH] (µg/ml)
c
IL-5 (ng/ml)
8
7
6
5
4
3
2
1
0
10
50
d
[3H]-Thymidine (cpm x 1000)
25
20
15
10
5
0
0
1
50
[KLH] (µg/ml)

FIGURE 16

FIGURE 17


a
WT
KO
Immunoglobulin (mg/ml)
10^3
10^2
0
IgG1
IgG2a
IgG2b
IgG3
IgM
IgA
b
Mean Fluorescence (OD450)
1.2
1
0.8
0.6
0.4
0.2
0
IgG1
IgG2a
c
CFU per liver
10^{12}
10^{10}
10^8
10^6
10^4
10^2
WT
KO
Day 3
WT
KO
Day 9

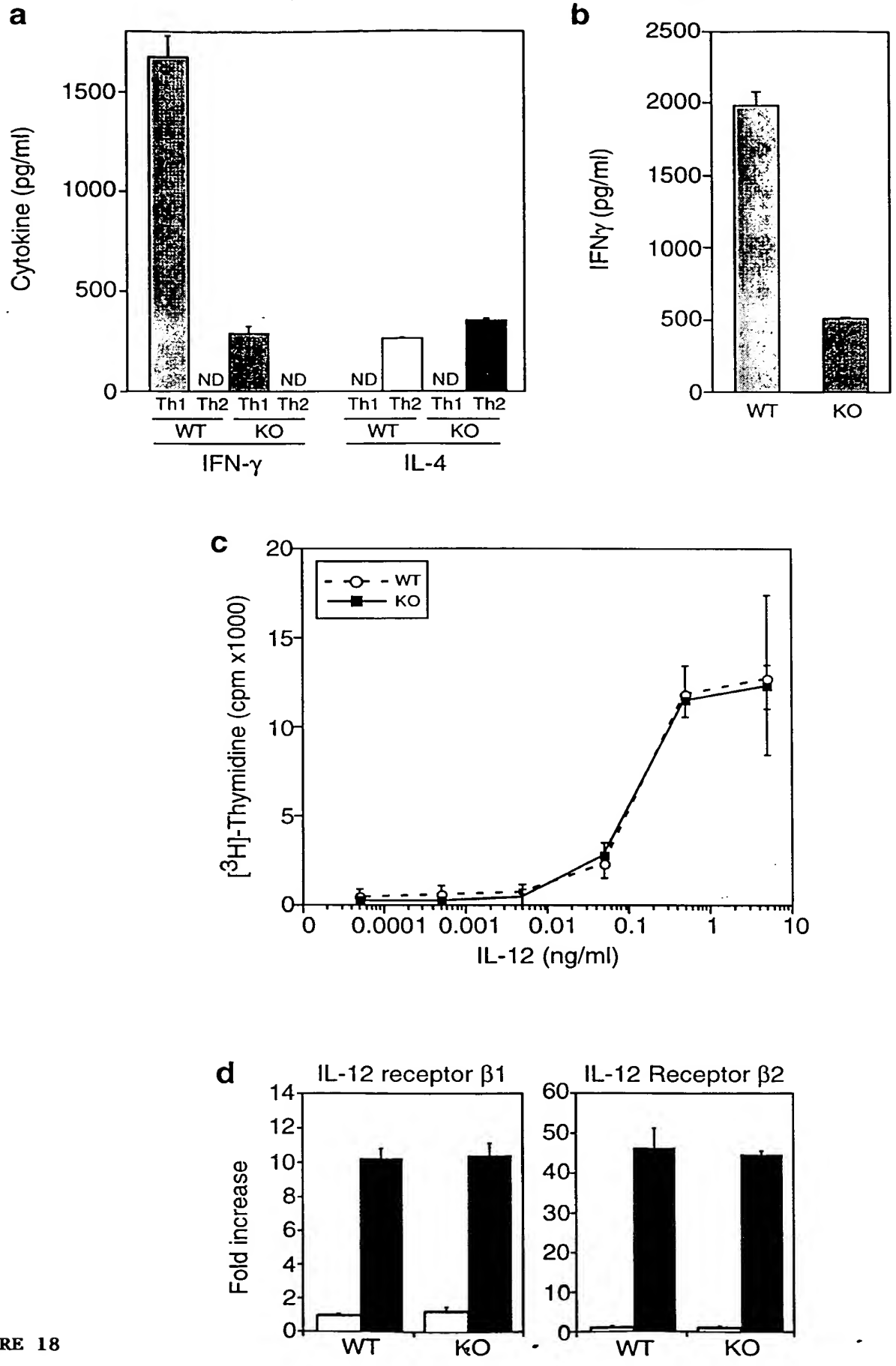

a
Cytokine (pg/ml)
1500
1000
500
0
ND
ND
ND
ND
Th1 Th2 Th1 Th2
WT KO
IFN-γ
Th1 Th2 Th1 Th2
WT KO
IL-4
b
IFNγ (pg/ml)
2500
2000
1500
1000
500
0
WT
KO
c
[3H]-Thymidine (cpm x1000)
20
15
10
5
0
WT
KO
0 0.0001 0.001 0.01 0.1 1 10
IL-12 (ng/ml)
d
IL-12 receptor β1
IL-12 Receptor β2
Fold increase
14
12
10
8
6
4
2
0
60
50
40
30
20
10
0
WT
KO
WT
KO

FIGURE 18

Figure 19

Primer/Probe	Sequence	SEQ ID NO:
mTCCR, sense, Taqman	TGGTCTCTCCTGGCAACAGC	5
mTCCR, as, Taqman	AGCCAAGCACACCAGAGACA	6
mTCCR, Taqman probe	CAGCTGGGTGCCTCCCACCAA	7
mRPL19, sense, Taqman	ATCCGCAAGCCTGTGACTGT	8
mRPL19, as, Taqman	TCGGGCCAGGGTGTTTTT	9
mRPL19, Taqman probe	TTCCCGGGCTCGTTGCCG	10
mIL12Rb1, sense, Taqman	TCGCGTCTCTGGGAAGCT	11
mIL12Rb1, as, Taqman	TTTAAGCCAATGTATCCGAGACTG	12
mIL12Rb1,Taqman probe	CGCCAGCGTCCTCCTCGTGG	13
mIL12Rb2, sense, Taqman	CAAGCATTTGCATCGCTATCA	14
mIL12Rb2, as, Taqman	AATGCCTTTTGCCGGAAGT	15
mIL12Rb2, Taqman probe	ACGAATTGAGAACGTGCCCACCGT	16